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FLOOD INSURANCE STUDY



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TOWN OF WELDON,
NORTH CAROLINA
HALIFAX COUNTY



OCTOBER 1, 1980



federal emergency management agency
federal insurance administration

COMMUNITY NUMBER - 370119

FEM 1-209:



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PUBLISHED SEPARATELY:

Flood Insurance Rate Map

FLOOD INSURANCE STUDY

1.0 INTRODUCTION

1.1 Purpose of Study

The purpose of this Flood Insurance Study is to investigate the existence and severity of flood hazards in the Town of Weldon, Halifax County, North Carolina, and to aid in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. Initial use of this information will be to convert Weldon to the regular program of flood insurance by the Federal Insurance Administration. Further use of the information will be made by local and regional planners in their efforts to promote sound land use and flood plain development.

1.2 Coordination

The North Carolina Department of Natural Resources and Community Development (State Coordination Agency), Halifax County officials, and local residents were notified of the initiation of the study and requested to furnish flood hazard data. Information was also requested from the U.S. Soil Conservation Service, the National Oceanic and Atmospheric Administration, the U.S. Geological Survey, and private contractors for the Federal Insurance Administration.

An initial coordination meeting, attended by representatives of the U.S. Army Corps of Engineers and the Federal Insurance Administration, Town of Weldon officials, and local residents, was held on September 27, 1976. The purpose of the meeting was to inform the community of the nature and purpose of the Flood Insurance Study, to solicit community input, and to identify streams requiring detailed study.

The results of this study were reviewed at a final community coordination meeting held on May 7, 1980. Attending the meeting were representatives of the Federal Insurance Administration, the study contractor, and the town. No problems were raised at the meeting.

1.3 Authority and Acknowledgments

The source of authority for this Flood Insurance Study is the National Flood Insurance Act of 1968, as amended.

The hydrologic and hydraulic analyses for this study were performed by the U.S. Army Corps of Engineers, Wilmington District, for the Federal Insurance Administration, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 4. This work, which was completed in February 1979, covered all significant flooding sources affecting the Town of Weldon.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the entire area within the extra-territorial limits of the Town of Weldon, Halifax County, North Carolina. The area of study is shown on the Vicinity Map (Figure 1).

Flooding caused by overflow of the Roanoke River, Chockoyotte Creek, Chockoyotte Creek Tributary, The Gut, and Graulevy Branch was studied by detailed methods.

Those areas studied by detailed methods were chosen with consideration given to all proposed construction and forecasted development through 1984.

The flood data contained in this Flood Insurance Study are for existing conditions and reflect reductions in flood stages to be expected by the existing flood control projects on the Roanoke River.

2.2 Community Description

Weldon is located in northern Halifax County, in northeastern North Carolina. The town is located just east of the City of Roanoke Rapids and 75 miles northeast of Raleigh.

The history of Weldon dates back to 1752, when Daniel Weldon bought 1275 acres lying along the south bank of the Roanoke River. First known as Weldon's Orchard, the town was also called Weldon's Place and Weldon's Landing on early maps. In 1812, a canal was chartered that would bypass the falls on the Roanoke River; in 1820, the Town of Weldon was laid out at the canal's eastern terminus. The town received tobacco, grain, and produce through the canal via Virginia and stored these goods for shipping by boat to Norfolk. Weldon became a terminal for four railroads which, by 1855, had diverted most shipping away from the canal. The town was incorporated in 1891 and is now known as the Rockfish Capital of the World. Weldon had a population of 2304 in 1970 (Reference 1).

Most of Weldon lies above the 100-year flood, on a bluff rising above the Roanoke River. The Roanoke River 100-year flood plain is primarily woodlands, but does include the Roanoke Rapids and Weldon sewage treatment plants, located at separate locations on the south bank. The 500-year flood plain includes several residences north of First Street, the water filtration plant, and a community building near the intersection of U.S. Highways 301 and 158. The Chockoyotte Creek flood plain includes some industrial development on the west side of the Seaboard Coast Line Railroad.





FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY /
Federal Insurance Administration
TOWN OF WELDON, NC
(HALIFAX CO.)

APPROXIMATE SCALE
2000 0 2000 4000 6000 FEET

VICINITY MAP

The Roanoke River at Weldon has a drainage area of approximately 8450 square miles. Chockoyotte Creek and Chockoyotte Creek Tributary drain the eastern portion of the study area. The fall zone of the Roanoke River, which is adjacent to Weldon, marks the transition from the Piedmont Plateau to the Coastal Plain. The topography within the town is gently rolling, varying in elevation from 15 feet along streambeds to 150 feet on the tops of hills.

Weldon has a mild climate, with an average annual temperature of 60°F and a mean annual precipitation of 44 inches (Reference 2).

The upland soils of Weldon are well-drained sandy surfaces over sandy clay loam of the Wagram-Norfolk Association. Flood plain soils are somewhat poorly to well-drained sandy loam soils of the Chewalla-Congaree and Wickham Associations (Reference 3).

Vegetation within the extraterritorial jurisdiction of Weldon is mostly farmland and forests. The predominant crops grown in the area are corn, soybeans, and tobacco. The forested areas consist of pine, oak, gum, ash, and sycamore trees. Within the corporate limits of Weldon, the area is mostly developed.

2.3 Principal Flood Problems

Low-lying areas of Weldon are subject to periodic flooding from the Roanoke River, Chockoyotte Creek, and their tributaries. The most severe flooding on the Roanoke River usually results from heavy rains caused by tropical storms, while creek flooding results primarily from local thunderstorms.

Floods along the Roanoke River caused significant damage in Weldon in 1912, 1940, 1944, and 1945. Among these, the August 1940 flood produced the highest stage of record at Weldon, when the river crested with a stage of 58 feet at the National Weather Service gage below U.S. Highway 301 in Weldon. This flood had a discharge of 260,000 cubic feet per second and an estimated recurrence interval of 100 years. This discharge would now exceed the 500-year frequency with flood control structures in operation. No major flooding has occurred on the river since Kerr Lake went into operation in 1951.

2.4 Flood Protection Measures

There are several major flow regulating structures upstream of Weldon on the Roanoke River. Kerr Lake, a U.S. Army Corps of Engineers project controlling a drainage area of 7800 square miles, provides the principal flood control on the Roanoke River. This structure would reduce the peak stage of a flood of the magnitude of the August 1940 flood by approximately 10 feet. No major flooding has occurred on the Roanoke River at Weldon since Kerr Lake went into operation in 1951. The June 1972 flood associated with Hurricane Agnes was on the order of a 100-year frequency event above Kerr Lake, but flood control regulation prevented significant flooding at Weldon.

The Virginia Electric and Power Company, in agreement with the U.S. Army Corps of Engineers, operates Lake Gaston and Roanoke Rapids Lake for flood control. Under the agreement, the discharge from these two lakes will not exceed the discharge from Kerr Lake. Therefore, Lake Gaston and Roanoke Rapids Lake have no additional effect on flood levels beyond the effect of Kerr Lake except to control local inflows.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude which are expected to be equalled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for flood plain management and for flood insurance premium rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 percent chance, respectively, of being equalled or exceeded during any year. Although the recurrence interval represents the long term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (1 percent chance of annual occurrence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported here reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for floods of the selected recurrence intervals for each stream studied in detail in the community.

The discharge-frequency relationship for the Roanoke River at Weldon is determined largely by the operation and storage capacity of the Kerr Lake project. Accordingly, the discharges used to compute the flood profiles for the Roanoke River were determined from the Kerr Lake reservoir regulation manual (Reference 4), which describes the operation of the project.

For the other streams, hydrologic analyses were carried out, using the log-Pearson Type III method (Reference 5), to establish the peak discharge-frequency relationships for floods of the selected recurrence intervals.

Discharge-frequency curves were developed for Chockoyotte Creek by a regional study utilizing data from stream gages on similar streams in the Roanoke River Basin. The gages used are shown on the following page.

<u>Gage</u>	<u>Drainage Area</u>	<u>Years of Record</u>
Tinker Creek Near Daleville	11.7	17
Catawba Creek Near Catawba	34.3	30
Kerr Creek Near Lexington	35.0	47
Johns Creek Near New Castle	47.0	47
Piney River at Piney River	47.6	24

Relationships for The Gut, Graulevy Branch, and Chockoyotte Creek Tributary were based on a regional study of 52 gages with lengths of record ranging from 10 to 50 years (Reference 6). These gages monitor drainage areas of less than 200 square miles in Piedmont, North Carolina.

Peak discharges were calculated at various locations for the 10-, 50-, 100-, and 500-year floods. For certain streams, the discharges were adjusted to account for existing urbanization in the watershed using the method developed by Putnam (Reference 7).

Peak discharge-drainage area relationships for the Roanoke River, Chockoyotte Creek, Chockoyotte Creek Tributary, The Gut, and Graulevy Branch are shown in Table 1.

Part of the discharge from Graulevy Branch flows northward through The Gut from the point of confluence of these two streams to the Roanoke River. This diversion of flow has been reflected in the discharge-drainage area relationships calculated for Graulevy Branch and The Gut.

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of streams in the community were carried out to provide estimates of the elevations of floods of the selected recurrence intervals along each stream studied in the community.

Water-surface elevations for the 10-, 50-, 100-, and 500-year floods were developed using the U.S. Army Corps of Engineers HEC-2 step-backwater computer model (Reference 8).

Cross section data for streams were obtained by field surveys. Elevation data and structural geometry of bridges and culverts were obtained by field surveys or from the North Carolina State Highway Commission.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway is computed (Section 4.2), selected cross section locations are also shown on the Flood Boundary and Floodway Map (Exhibit 2).

Table 1. Summary of Discharges

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second)			
		10-Year	50-Year	100-Year	500-Year
Roanoke River					
At the National Weather Service Gage Below U.S. Highway 301 at Weldon	8,450	24,500	35,000	61,000	185,000
Chockoyotte Creek					
At the Mouth	21.8	3,890	9,100	12,300	23,800
At State Road 1641	20.5	3,650	8,600	11,700	22,600
At Interstate Highway 95	17.5	2,850	6,750	9,550	18,800
Chockoyotte Creek Tributary					
At the Mouth	2.2	490	980	1,270	2,250
At the Upstream Limit of Detailed Study	1.5	390	780	1,020	1,800
The Gut					
At the Mouth	2.4	480 ¹	840 ¹	1,040 ¹	1,585 ¹
Downstream of Confluence With Graulevy Branch	1.9	390 ¹	695 ¹	865 ¹	1,325 ¹
At the Upstream Limit of Detailed Study	0.3	260	490	620	955
Graulevy Branch					
At the Downstream Limit of Detailed Study	2.7	190 ¹	455 ¹	625 ¹	1,320 ¹
Downstream of Confluence With The Gut	1.9	130 ¹	305 ¹	385 ¹	785 ¹
Upstream of Confluence With The Gut	1.5	390	780	1,020	1,820
At the Upstream Limit of Detailed Study	1.2	360	720	940	1,670

¹Values Reflect Overflow From Graulevy Branch to The Gut

Roughness coefficients (Manning's "n") were determined from field inspection and aerial photographs (Reference 9). Roughness coefficients generally ranged from 0.035 to 0.060 in the main channels and from 0.080 to 0.200 in the overbank areas.

Starting water-surface elevations for the Roanoke River were taken from the Halifax County Flood Insurance Study (Reference 10). Starting water-surface elevations for the remaining streams studied were determined by the slope-area method.

Flood profiles were drawn showing computed water-surface elevations to an accuracy of 0.5 foot for floods of the selected recurrence intervals (Exhibit 1).

The hydraulic analyses for this study were based on unobstructed flow conditions. The flood elevations, as shown on the profiles, are, thus, considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail during floods.

All elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD). Elevation reference marks used in the study are shown on the maps.

4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

A prime purpose of the National Flood Insurance Program is to encourage State and local governments to adopt sound flood plain management programs. Each Flood Insurance Study, therefore, includes a flood boundary map designed to assist communities in developing sound flood plain management measures.

4.1 Flood Boundaries

In order to provide a national standard without regional discrimination, the 100-year flood has been adopted by the Federal Insurance Administration as the base flood for purposes of flood plain management measures. The 500-year flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the boundaries of the 100- and 500-year floods have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:24,000, enlarged to a scale of 1:12,000, with a contour interval of 5 feet (Reference 11).

In cases where the 100- and 500-year flood boundaries are close together, only the 100-year flood boundary has been shown.

Flood boundaries for the 100- and 500-year floods are shown on the Flood Boundary and Floodway Map (Exhibit 2).

Small areas within the flood boundaries may lie above the flood elevations and, therefore, not be subject to flooding; owing to limitations of the map scale, such areas are not shown.

4.2 Floodways

Encroachment on flood plains, such as artificial fill, reduces the flood-carrying capacity and increases flood heights, thus increasing flood hazards in areas beyond the encroachment itself. One aspect of flood plain management involves balancing the economic gain from flood plain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, the concept of a floodway is used as a tool to assist local communities in this aspect of flood plain management. Under this concept, the area of the 100-year flood is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent flood plain areas, that must be kept free of encroachment in order that the 100-year flood be carried without substantial increases in flood heights. As minimum standards, the Federal Insurance Administration limits such increases in flood heights to 1.0 foot, provided that hazardous velocities are not produced.

Prior to the initiation of this Flood Insurance Study, a floodway was delineated on the Roanoke River at Weldon that is based on considerations other than the standard Federal Insurance Administration and State of North Carolina criteria. Because of the inordinate difference between the 100- and 500-year flood elevations on the river (approximately 14 feet), the U.S. Army Corps of Engineers has recommended, in the interest of public safety, that the Roanoke River floodway be delineated based on the 500-year flood. Such a floodway, when adopted, would preclude development in areas where extreme flood heights above the 100-year elevation pose a severe threat to life and property. Accordingly, the floodway boundary on the Roanoke River has been delineated so as to provide adequate flow area for the 500-year flood and to preclude encroachment into hazardous flood plain areas lying above the 100-year flood level. This floodway was delineated to preclude development in most areas where the 500-year flood depth exceeds 10 feet. Although this floodway has not yet been adopted by the city, local and State officials have concurred on this approach. Data on the Roanoke River floodway are tabulated at selected cross sections (Table 2).

The floodways along Chockoyotte Creek, The Gut, and Graulevy Branch were computed on the basis of equal conveyance reduction from each side of the flood plain. The results of these computations are tabulated at selected cross sections for each stream segment for which a floodway is computed (Table 2).

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY	INCREASE
Roanoke River								
A	657,700	9,050/ ² 7,730	53,700	1.7	57.4 ³	55.0	55.0	0.0
B	661,550	5,110/ ² 1,440	52,160	1.8	58.2 ³	55.5	55.5	0.0
C	664,976	1,850/ ² 270	33,720	2.8	59.1 ³	55.8	55.8	0.0
Chockoyotte Creek								
A	897	200	3,160	3.9	74.2	74.2 ⁴	74.2 ⁴	0.0
B	1,572	150	1,990	6.2	74.2	74.1 ⁴	74.2 ⁴	0.1
C	2,638	300	7,563	1.6	80.2	80.2	81.0	0.8
D	5,127	1,200	25,811	0.5	80.3	80.3	81.2	0.9
E	7,117	800	13,470	0.9	80.4	80.4	81.4	1.0
F	7,883	500	5,578	2.1	80.8	80.8	81.8	1.0
G	9,120	255	2,130	5.5	83.5	83.5	83.9	0.4
H	11,105	1,425	19,645	0.6	84.0	84.0	84.6	0.6
I	14,540	950	3,277	3.6	85.8	85.8	86.8	1.0
Chockoyotte Creek Tributary								
A	120	370	1,180	1.1	84.0	75.9 ⁵	75.9 ⁵	0.0
B	910	165	500	2.5	84.0	80.0 ⁵	80.6 ⁵	0.6
C	2,600	120	410	2.9	90.5	90.5	90.8	0.3
D	4,210	170	650	1.7	97.0	97.0	97.9	0.9
E	5,660	185	580	1.9	99.8	99.8	100.7	0.9
F	6,770	205	540	1.9	105.1	105.1	105.8	0.7

¹ Feet Above Mouth ² Width/Width Within Extraterritorial Limits ³ Elevation Determined As 10 Feet Below The 500-Year Flood Stage ⁴ Indicates Critical Depth ⁵ Elevations Shown Without Consideration Given to Backwater Effects From Chockoyotte Creek

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

TOWN OF WELDON, NC
(NALIFAX CO.)

FLOODWAY DATA

ROANOKE RIVER-CHOCKOYOTTE CREEK-CHOCKOYOTTE CREEK TRIBUTARY

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY	INCREASE
The Gut								
A	800	40 ²	246	4.2	55.3	38.7 ³	38.7 ³	0.0
B	2,200	44 ²	222	4.7	55.3	44.2 ³	44.2 ³	0.0
C	4,500	60 ²	361	2.4	55.3	47.3 ³	47.3 ³	0.0
D	6,160	49	224	2.8	55.3	48.6 ³	48.6 ³	0.0
Graulevy Branch								
A	18,500	70 ²	385	1.0	55.3	47.5 ³	47.9 ³	0.4
B	19,750	48 ²	207	4.9	55.3	48.0 ³	48.3 ³	0.3
C	21,900	50	226	4.2	56.9	56.9	57.5	0.6

¹Feet Above Mouth ²Floodway Located Within Roanoke River Floodway ³Elevations Shown Without
Consideration Given to Backwater Effects From Roanoke River

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

TOWN OF WELDON, NC
(HALIFAX CO.)

FLOODWAY DATA

THE GUT-GRAULEVY BRANCH

As shown on the Flood Boundary and Floodway Map (Exhibit 2), the floodway boundaries were determined at cross sections; between cross sections, the boundaries were interpolated. In cases where the floodway and 100-year flood boundaries are close together, only the floodway boundary has been shown.

The area between the floodway and the boundary of the 100-year flood is termed the floodway fringe. The floodway fringe thus encompasses the portion of the flood plain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to flood plain development are shown in Figure 2.

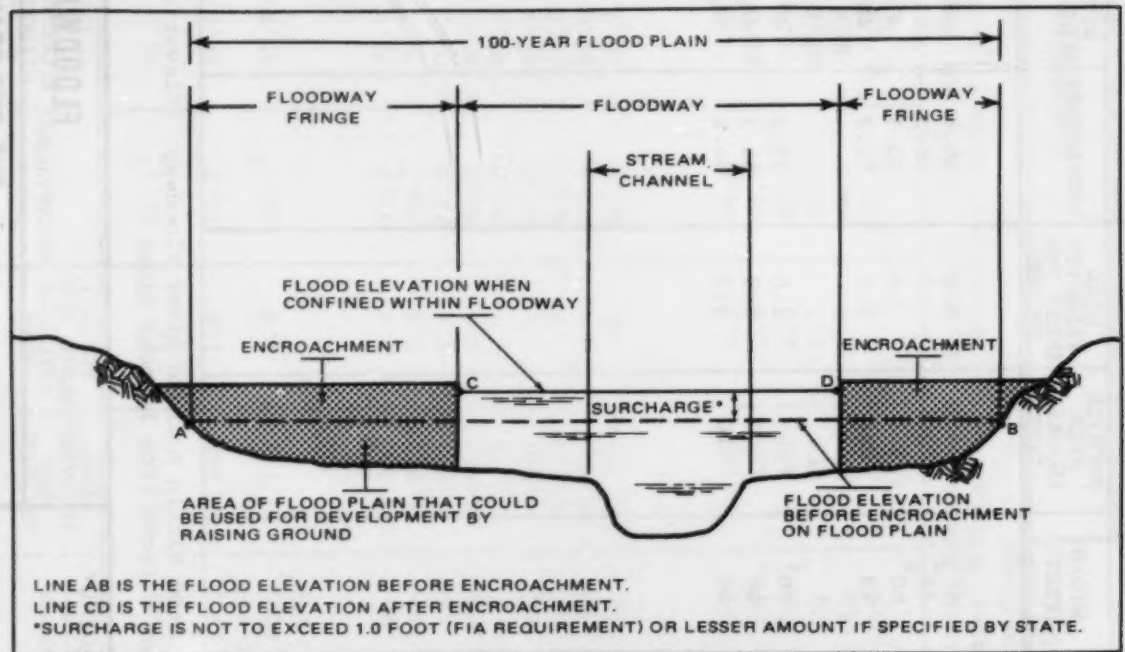


Figure 2. Floodway Schematic

5.0 INSURANCE APPLICATION

In order to establish actuarial insurance rates, the Federal Insurance Administration has developed a process to transform the data from the engineering study into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors, and flood insurance zone designations for each flooding source studied in detail affecting the area within the extraterritorial jurisdiction of Weldon.

5.1 Reach Determinations

Reaches are defined as lengths of watercourses having relatively the same flood hazard, based on the average weighted difference in water-surface elevations between the 10- and 100-year floods. This difference does not have a variation greater than that indicated in the following table for more than 20 percent of the reach:

Average Difference Between 10- and 100-year Floods	Variation
Less than 2 feet	0.5 foot
2 to 7 feet	1.0 foot
7.1 to 12 feet	2.0 feet
More than 12 feet	3.0 feet

The locations of the reaches determined for the flooding sources of Weldon are shown on the Flood Profiles (Exhibit 1) and summarized in Table 3.

5.2 Flood Hazard Factors

The Flood Hazard Factor (FHF) is the Federal Insurance Administration device used to correlate flood information with insurance rate tables. Correlations between property damage from floods and their FHF are used to set actuarial insurance premium rate tables based on FHF's from 005 to 200.

The FHF for a reach is the average weighted difference between the 10- and 100-year flood water-surface elevations expressed to the nearest one-half foot, and shown as a three-digit code. For example, if the difference between water-surface elevations of the 10- and 100-year floods is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference between the 10- and 100-year water-surface elevations is greater than 10.0 feet, accuracy for the FHF is to the nearest foot.

5.3 Flood Insurance Zones

After the determination of reaches and their respective Flood Hazard Factors, the entire area within the extraterritorial jurisdiction of Weldon was divided into zones, each having a specific flood potential or hazard. Each zone was assigned one of the following flood insurance zone designations:

Zones A2, A4, A5, A14,
A20, and A25:

Special Flood Hazard Areas inundated by the 100-year flood, determined by detailed methods; base flood elevations shown, and zones subdivided according to Flood Hazard Factors.

FLOODING SOURCE	PANEL ¹	ELEVATION DIFFERENCE ² BETWEEN 1% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION ³ (FEET NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
Roanoke River Reach 1	0005	-10.0	-6.0	13.6	100	A20	Varies - See Map
Chockoyotte Creek Reach 1	0005	-15.0	-5.9	3.3	150	A25	Varies - See Map
Reach 2	0005	-7.1	-2.7	5.0	070	A14	Varies - See Map
Chockoyotte Creek Tributary Reach 1	0005	-1.2	-0.4	1.2	010	A2	Varies - See Map
The Gut Reach 1	0005	-2.6	-0.3	0.3	025	A5	Varies - See Map
Graulevy Branch Reach 1	0005	-2.0	-0.4	9.5	020	A4	Varies - See Map

¹Flood Insurance Rate Map Panel

²Weighted Average

³Rounded to Nearest Foot

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

TOWN OF WELDON, NC
(HALIFAX CO.)

FLOOD INSURANCE ZONE DATA

ROANOKE RIVER-CHOCKOYOTTE CREEK-CHOCKOYOTTE CREEK TRIBUTARY-
THE GUT-GRAULEVY BRANCH



Zone B:

Areas between the Special Flood Hazard Areas and the limits of the 500-year flood, including areas of the 500-year flood plain that are protected from the 100-year flood by dike, levee, or other water control structure; also areas subject to certain types of 100-year shallow flooding where depths are less than 1.0 foot; and areas subject to 100-year flooding from sources with drainage areas less than 1 square mile. Zone B is not subdivided.

Zone C:

Areas of minimal flooding.

The flood elevation differences, Flood Hazard Factors, flood insurance zones, and base flood elevations for each flooding source studied in detail in the community are summarized in Table 3.

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for the Town of Weldon is, for insurance purposes, the principal result of the Flood Insurance Study. This map (published separately) contains the official delineation of flood insurance zones and base flood elevation lines. Base flood elevation lines show the locations of the expected whole-foot water-surface elevations of the base (100-year) flood. This map is developed in accordance with the latest flood insurance map preparation guidelines published by the Federal Insurance Administration.

6.0 OTHER STUDIES

The U.S. Army Corps of Engineers published a study on the Roanoke River basin in 1934 (Reference 12). In 1944, the U.S. Army Corps of Engineers, using the additional period of flood record, published a new study for the basin which superseded the 1934 study (Reference 13). The 1944 study is superseded by this Flood Insurance Study due to the completion of Kerr Lake.

A Flood Plain Information report was prepared by the U.S. Army Corps of Engineers in 1973 (Reference 14). All data used in this study are compatible with the data presented in the Flood Plain Information report.

The U.S. Geological Survey prepared a report in 1976 on the magnitude and frequency of floods in North Carolina (Reference 15). The U.S. Geological Survey report is in agreement with this study.

A Flood Insurance Study for the unincorporated areas of Halifax County is being prepared by the U.S. Army Corps of Engineers (Reference 10). In addition, a Flood Insurance Study has been completed for the City of Roanoke Rapids (Reference 16). Both Flood Insurance Studies are in agreement with this study.

The Federal Insurance Administration published a Flood Hazard Boundary Map for Weldon in 1974 (Reference 17). All information in this study is compatible with the Flood Hazard Boundary Map.

This study is authoritative for the purposes of the National Flood Insurance Program; data presented herein either supersede or are compatible with all previous determinations.

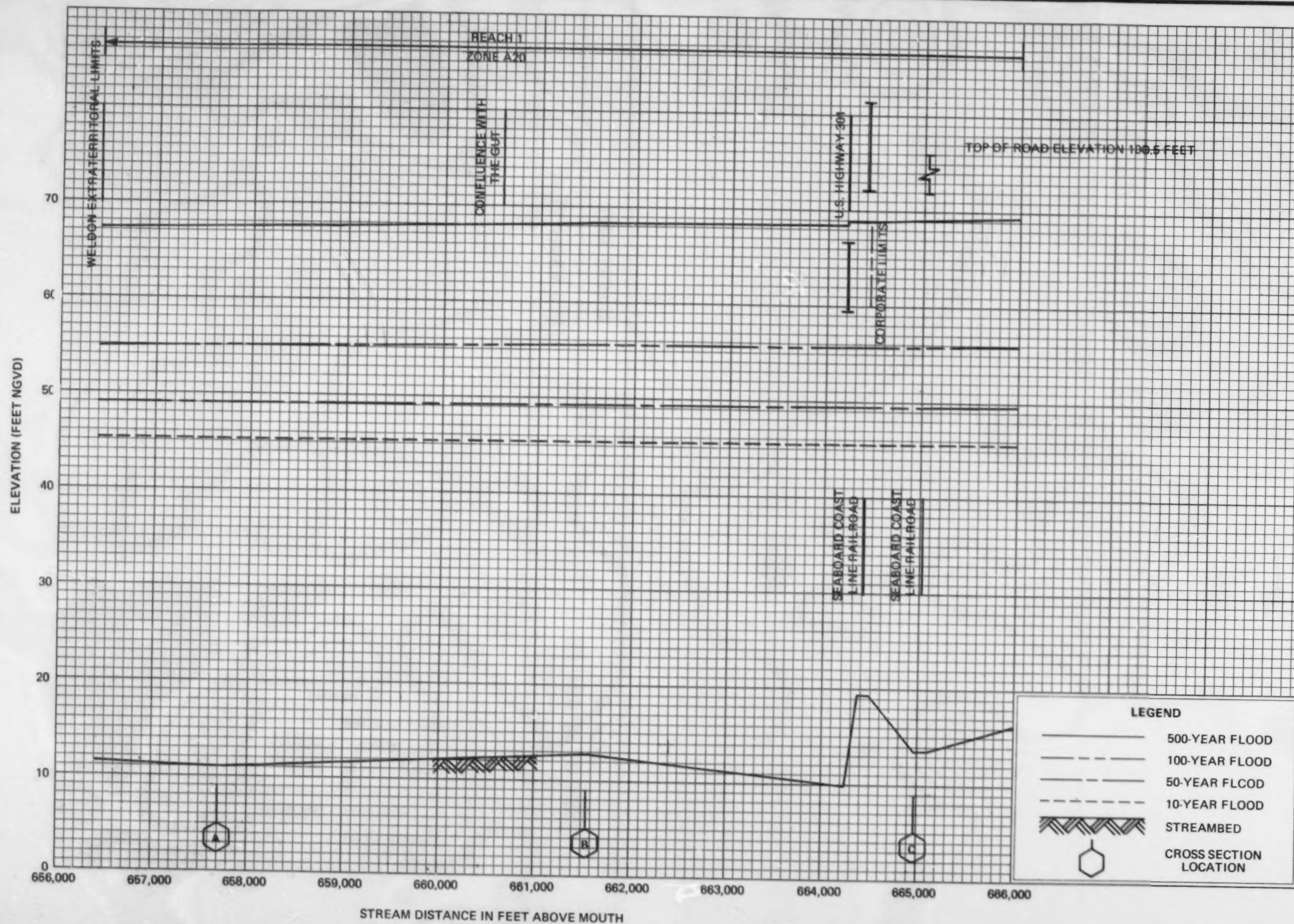
7.0 LOCATION OF DATA

Survey, hydrologic, hydraulic, and other pertinent data used in this study can be obtained by contacting the Insurance and Mitigation Division, Federal Emergency Management Agency, 1375 Peachtree Street, NE., Atlanta, Georgia 30309.

8.0 BIBLIOGRAPHY AND REFERENCES

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15. U.S. Department of the Interior, Geological Survey, Floods in North Carolina, Magnitude and Frequency, 1976
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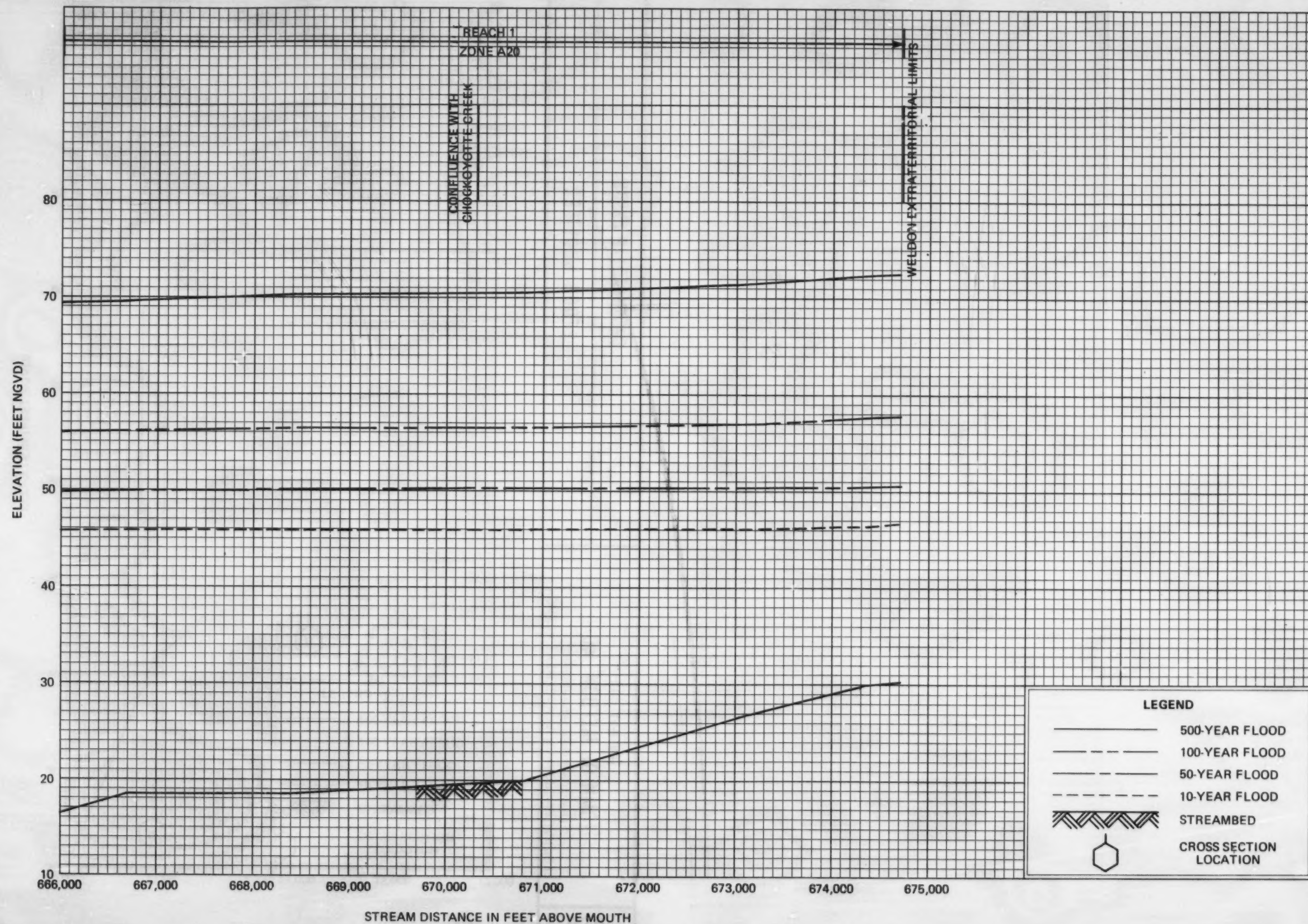
FLOOD PROFILES

ROANOKE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

TOWN OF WELDON, NC
(HALIFAX CO.)

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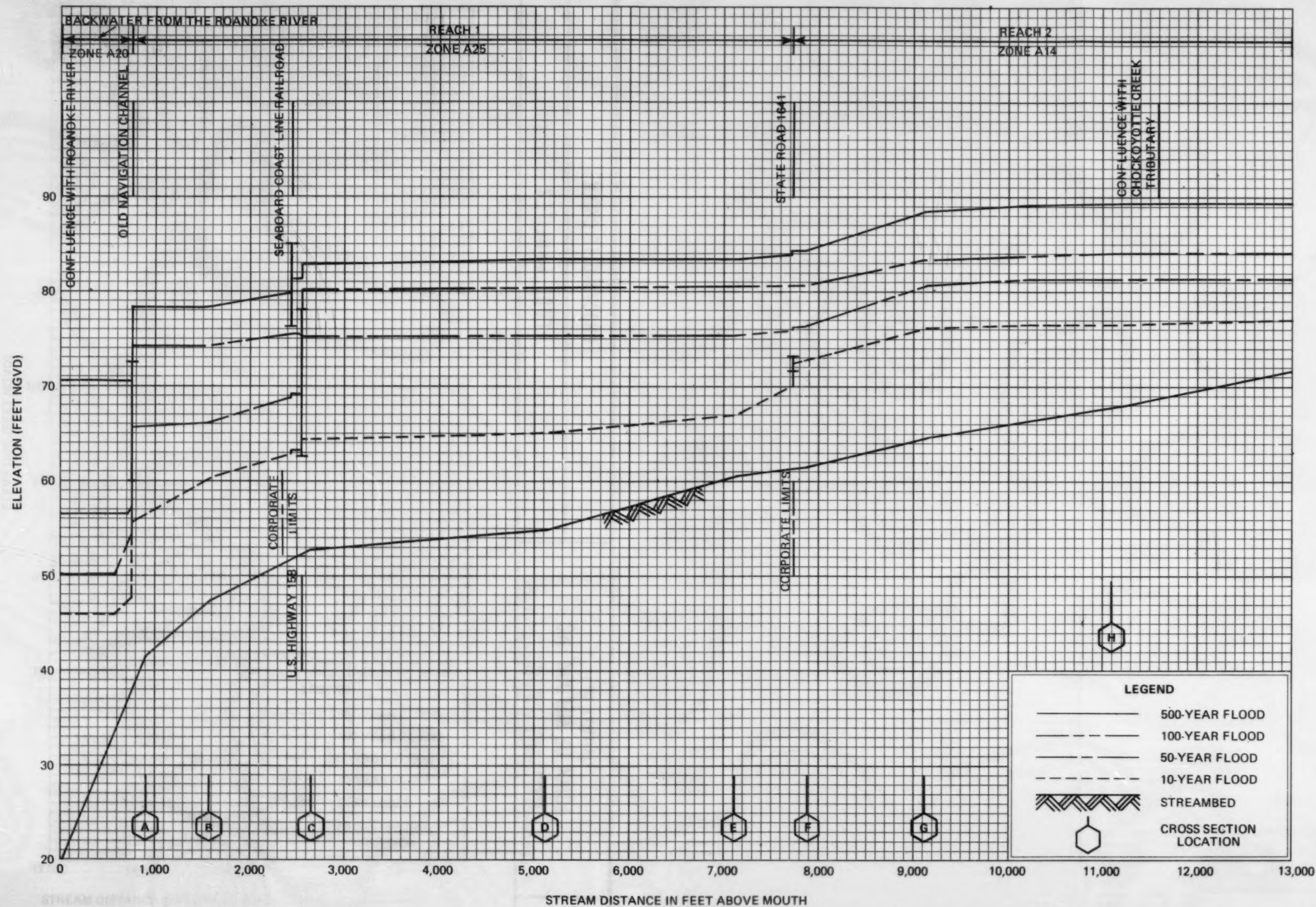
	500-YEAR FLOOD
	100-YEAR FLOOD
	50-YEAR FLOOD
	10-YEAR FLOOD
	STREAMBED
	CROSS SECTION LOCATION

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

FLOOD PROFILES

TOWN OF WELDON, NC
(HALIFAX CO.)

ROANOKE RIVER

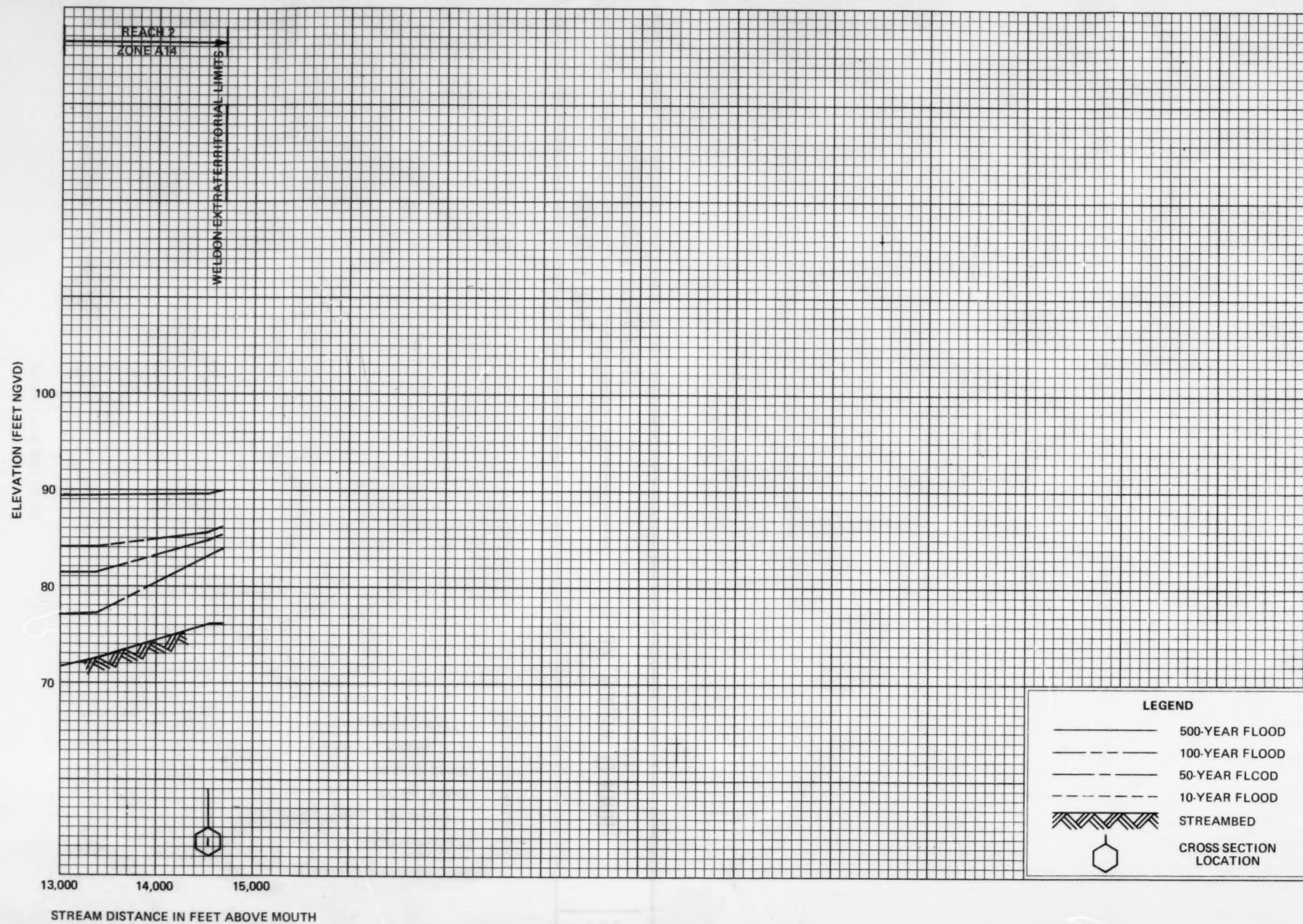


FLOOD PROFILES

CHOCKOYOTTE CREEK

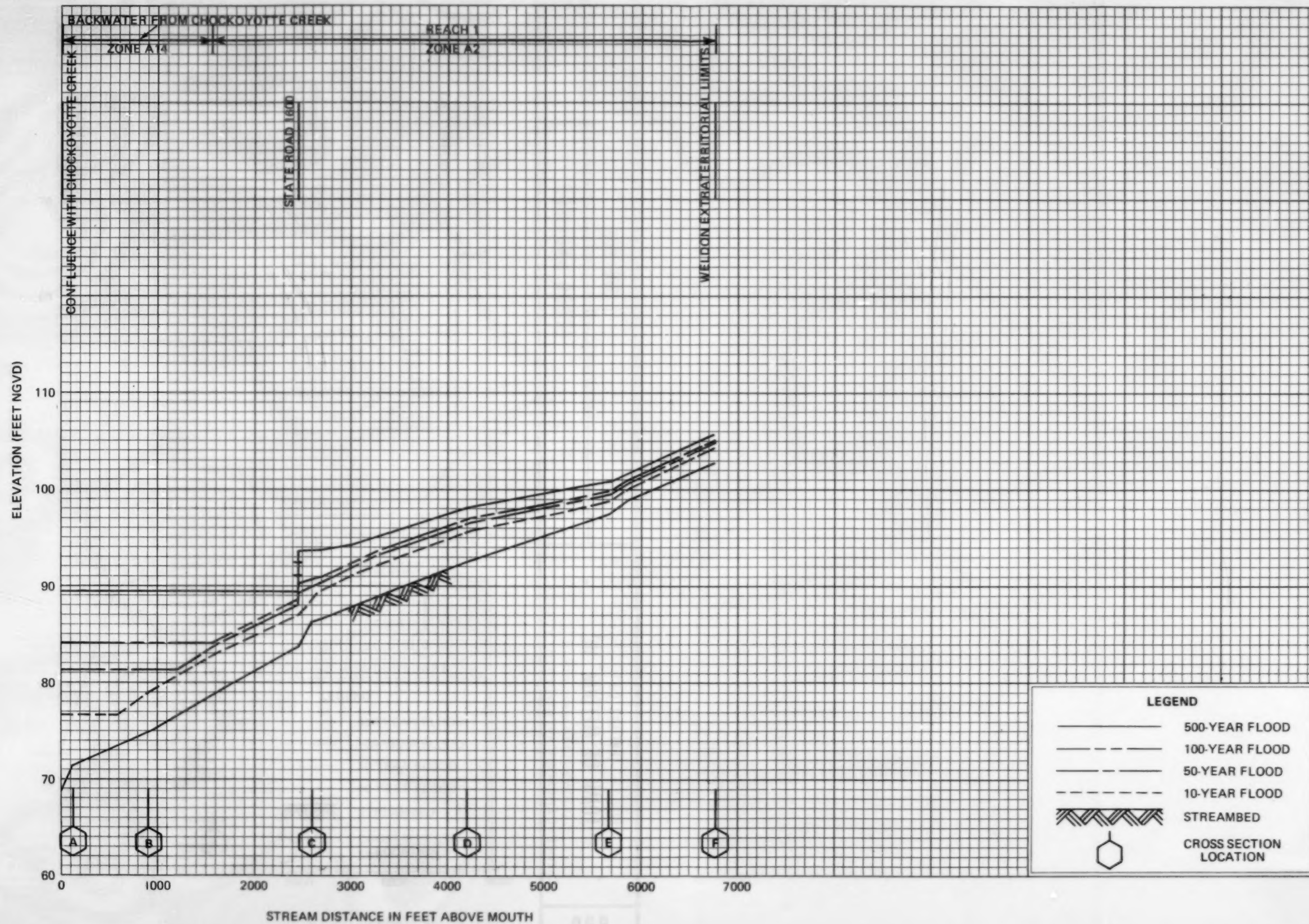
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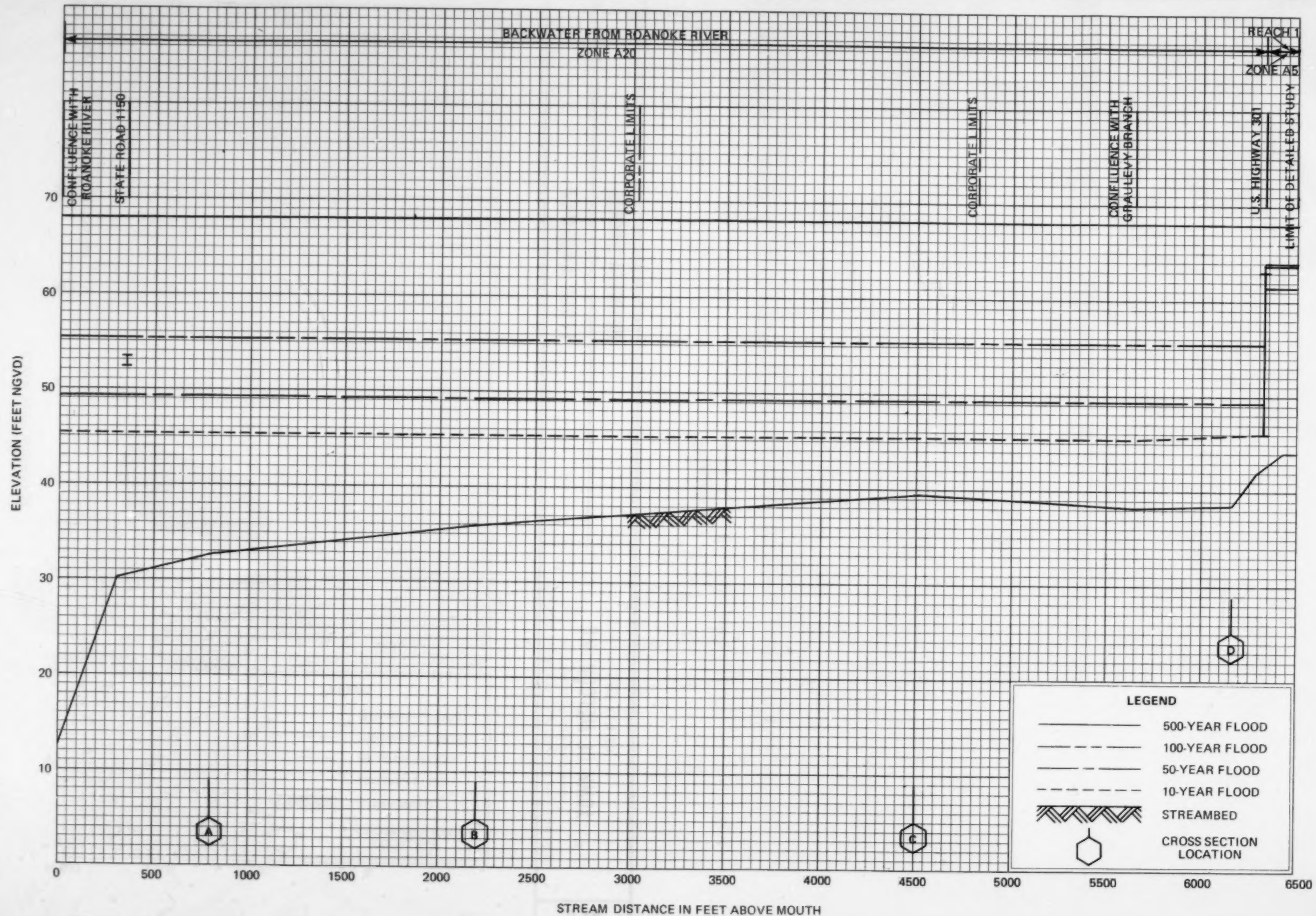
FLOOD PROFILES
CHOCKOYOTTE CREEK

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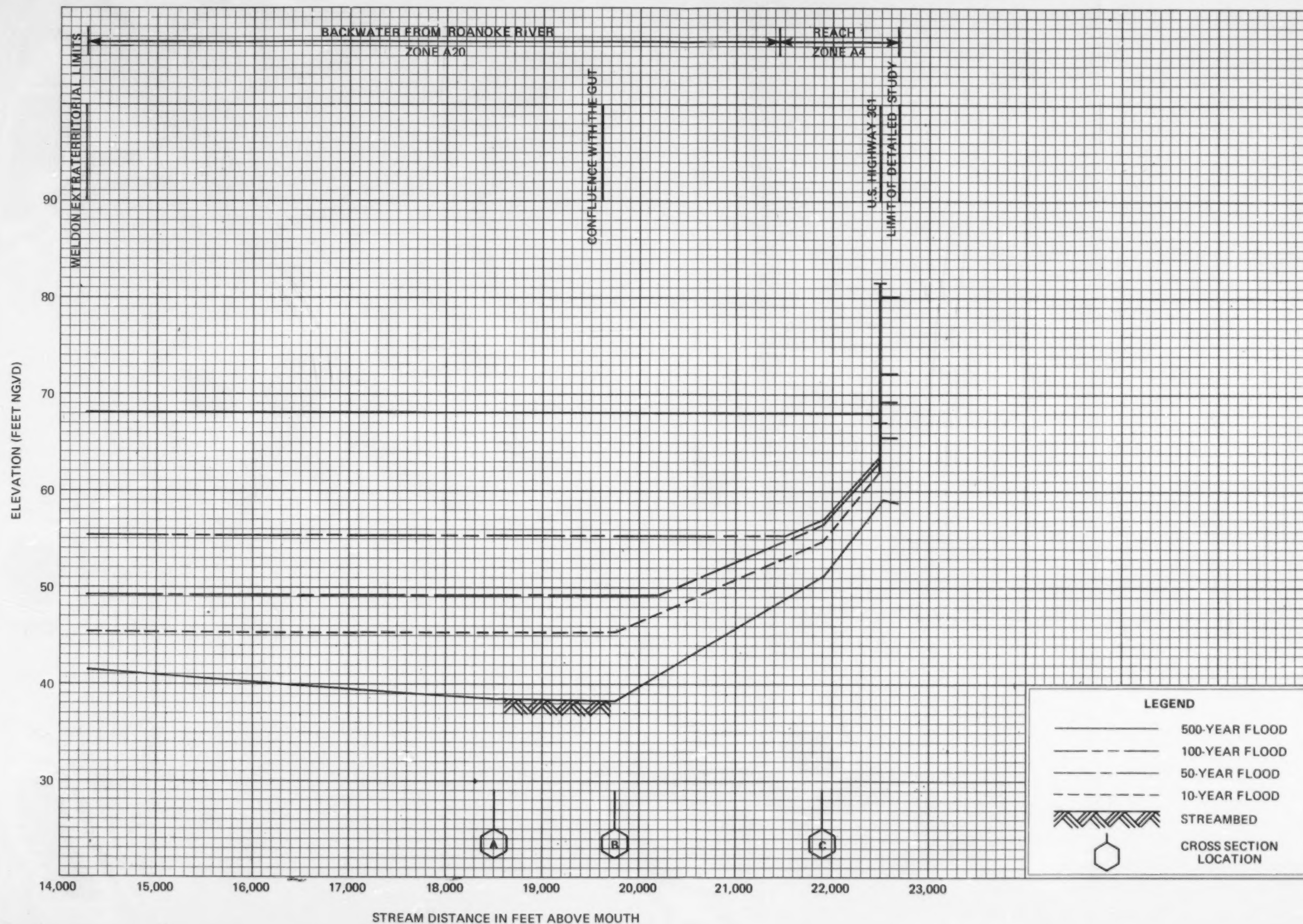
FLOOD PROFILES
CHOCKOYOTTE CREEK TRIBUTARY

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FLOOD PROFILES
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